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February 6, 1958

MEMORANDUM OF CONFERENCE WITH THE PRESIDENT  
February 4, 1958 (following Legislative Leaders meeting)

Others present:           Dr. Killian  
                              Dr. Kistiakowsky  
                              Dr. York  
                              General Goodpaster

Dr. Killian opened by saying that real progress is being made in the missiles program. It has gone at a faster clip than was foreseen in 1953 and 1954. There are grounds for real confidence that both liquid and solid-propellant missiles will perform satisfactorily, from a technical point of view. He then asked Dr. Kistiakowsky to report in more detail.

Dr. Kistiakowsky said that technical progress has been all that was expected, and more. There are no scientific problems remaining with regard to the first generation of missiles. The problems are engineering problems -- specifically to build the elements so that they will perform reliably. There are certain problems which need attention. We can be sure that the Thor will function satisfactorily. The Jupiter missile is, production-wise, behind the Thor. To go forward with production on both requires the Air Force to set up two different systems for training and handling. Technically the missiles are almost identical. The Thor production model has been better tested, since the Jupiter must be redesigned for production by Chrysler. Dr. Kistiakowsky said that specifically, within the next few months, a decision ought to be made in this matter. Dr. Kistiakowsky said the major additional cost in the Jupiter program is that of putting Chrysler into production. The first missiles from Chrysler may be expected in January 1959. Dr. York added that the biggest cost in other than money terms -- i.e., in talent and decision energy -- is to the Air Force in preparing for the use of two missiles.

The President said that he has come to regret deeply that the missile program was not set up in OSD rather than in any of the services. Personal feelings are now so intense that changes are extremely difficult. Dr. Killian commented that the group was

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giving advice from the technical standpoint solely. The President asked that they give their advice to the Secretary of Defense and it will be up to him to make a decision, with the President giving him support.

Dr. York suggested that the Army Ballistic Missiles Agency is a highly competent organization, and is interested in satellites. The President quickly interjected a caution not to put the satellite job in any service.

Dr. Kistiakowsky went on to say that the Titan will be superior to the Atlas, but it is behind it by eighteen months to two years. The President stressed that what we must have is the earliest possible operational capability. Dr. Kistiakowsky went on to say that work is well under way on the Polaris missile. He thought it should be said, however, that we are not sure we can meet an operational date of 1963 for a 1500-mile missile -- we can meet an even earlier operational date for a 1000-mile missile, however.

Dr. Kistiakowsky said that a solid-propellant ICBM cannot be expected until 1965-66. Thus there will be a gap of about five years between quantity availability of liquid propellant ICBMs and solid propellant. There is reason in his mind to set up a systematic production-improvement program for liquid missiles, for example going to storable fuels that are ignitable on contact. Titan and Thor have many opportunities for substantial improvement. He suggested that we should terminate the Atlas program after eighty missiles are produced. He added that Titan seems to offer the best booster for space missions.

The President stressed the importance of picking out the phases of activity in which we should undertake to compete with the Soviets, and to beat them. We should not try to excel in everything. He added that psychological as well as technical considerations are important -- at times appearances are as significant as the reality, if not more so.

The President asked if there is some area in the United States where we could conduct missiles tests in secrecy -- keeping undesired visitors out. He was told that Camp Cook seems to meet

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many of these requirements. He said he would like to see it called the Defense Testing Station -- and see it kept out of service politics.

Dr. Kistiakowsky went on to give a technical net evaluation of our relative position respecting the Soviets. As to the ICBM, he thought they were probably about one year ahead of us in propulsion, one year behind us in warhead development, and somewhat behind us in guidance, but with a much simpler operational concept based on a mobile rail-based system. He added that because of more powerful propulsion, they could have simply designed their weapon to carry the heavier, older-style warhead. In the medium range missile of 100-600 mile range, they are probably about three years ahead of us, having initiated troop training in 1953 and 1954. Their weapons are highly mobile, using track-laying and road vehicles. In guidance they are probably behind us, with a one-mile CEP for small weapons and a five-mile CEP for large. Their IRBM is a 1000-mile missile, which is probably a 600-mile missile with a lighter warhead.

The President said that in evaluating material of this kind it is necessary to consider relative probabilities. Until an enemy has enough operational capability to destroy most of our bases simultaneously and thus prevent retaliation by us our deterrent remains effective. We would make a mistake to credit him with total capabilities. Dr. York pointed out that an enemy who planned to make an attack could select a time for his attack and delay until he is ready.

Dr. Killian asked if the President thought all of this should be presented to Mr. McElroy, and the President said he thought it should, informally initially, but then put into document form. He thought it was very important to act in these matters in order to avoid wasting money and talent.

The group next discussed questions of outer space. Dr. Killian referred to discussions at the Leaders Meeting earlier that morning, and said there is great pressure in the Congress and elsewhere to have some space work done outside the Department of Defense. His thought was we should get down some objectives in our space program. He hoped to come in soon with this. It would cover scientific as well

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as military objectives. The President said that space objectives relating to Defense are those to which the highest priority attaches, because they bear on our immediate safety. He recognized that the psychological factor is of importance to our security, for example to the attitude of our allies. He did not think that large operating activities should be put in another organization, because of the duplication, and did not feel that we should put talent etc. into crash programs outside the Defense establishment. He added one general proviso and condition to all of this -- that Defense gets its own organization correct, i.e., that there is a central organization to handle this in Defense. He said he wants to get the broad principles of organization right, not bowing to pressures. He did not want to concern himself with details, but felt that it is vitally important to get the relationship to Defense correct.

Dr. York pointed out that the Army and Air Force statements concerning satellite projects are in the talking stage -- none are approved projects. The President said that even the announcements and the discussion of these matters should come from Defense. The President asked for the organizational thoughts of the scientific group on space research and missiles, both in Defense and outside, now and for the future.

The President thought it would be a good thing for two or three people to meet with him every now and then just to talk over some of these questions and make sure that their thinking is correct. He named Dr. Killian and Mr. Hagerty in this respect.



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Brigadier General, USA



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